

Application No.: 10/747,655Docket No.: 1315-051Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of producing TaC-transition metal based complex powder comprising the steps of:
 - a) dispersing a mixture of a Ta-containing material and a transition metal-containing water soluble salt into a solvent, stirring the mixture and spray-drying the stirred material to obtain a precursor powder;
 - b) calcining the precursor powder to form ultra fine Ta-transition metal complex oxide powder;
 - c) mixing the ultra fine Ta-transition metal complex oxide powder with [[nano]]nana-sized carbon particles, followed by drying to obtain a complex oxide powder; and
 - d) subjecting the dried complex oxide powder to [[reduction/carburization]] reduction at a temperature between 600 to 1,100°C, and then reduction and carburization at a temperature between 1,000 and 1,350°C in a non-oxidizing atmosphere.
2. (Previously presented) The method according to claim 1, wherein said mixture of a Ta-containing material is Ta-based chloride salt, or Ta oxalate, and said solvent is water or organic solvent.

Application No.: 10/747,655

Docket No.: 1315-051

3. (Previously presented) The method according to claim 2, wherein the content of the transition metal in the complex powder is in the range of 1 to 30 wt%.

4. (Currently amended) The method according to claim 3, wherein the [[calcinations]] calcining is performed at a temperature between 250 to 1000°C.

5. (Cancelled).

6. (Previously presented) The method according to claim 1, wherein the content of the transition metal in the complex powder is in the range of 1 to 30 wt%.

7. (Currently amended) The method according to claim 1, wherein the [[calcinations]] calcining is performed at a temperature between 250 to 1000°C.

8. (Cancelled).

9. (New) The method according to claim 1, wherein the transition metal of the transition-metal containing salt comprises Co, Fe or Ni.

10. (New) The method according to claim 2, wherein the Ta-containing material is a Ta-based chloride salt.

11. (New) The method according to claim 10, wherein the Ta-based chloride salt is TaCl₅.

Application No.: 10/747,655

Docket No.: 1315-051

12. (New) The method according to claim 1, wherein the transition metal-containing water soluble salt is cobalt nitrate.

13. (New) The method according to claim 1, wherein the TaC-transition metal based complex powder has a particle size of from 50 to 300 nm.

14. (New) The method according to claim 1, wherein the TaC-transition metal based complex powder has a TaC phase having a TaC crystal size of from 46 to 52 nm.

15. (New) A TaC-transition metal based complex powder produced by the method of claim 1.

16. (New) The TaC-transition metal based complex powder according to claim 15, which has a particle size of from 50 to 300 nm.

17. (New) A TaC-transition metal based complex powder having a particle size of from 50 to 300 nm.